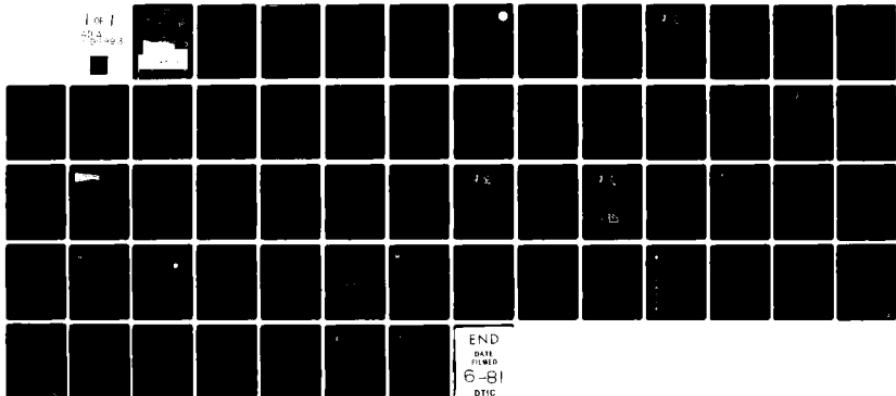


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GRAYS HARBOR AND CHEHALIS RIVER IMPROVEMENTS TO NAVIGATION ENVI--ETC(U)
MAY 80 J M SMITH, L W MESSMER, J B PHIPPS
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(6) GRAYS HARBOR
AND
CHEHALIS RIVER
IMPROVEMENTS TO NAVIGATION
ENVIRONMENTAL STUDIES

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GRAYS HARBOR OCEAN DISPOSAL STUDY, APPENDIX F.

Responses of Groups and Agencies

BY (15) DACW61-79-C-0046

(16) JOHN M. SMITH, LOUIS W. MESSMER, JAMES B. PHIPPS,
DONALD F. SAMUELSON, AND EUGENE D. SCHERMER

AD A 098 993



Grays Harbor College
Aberdeen, Washington
98520

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SEATTLE DISTRICT
U.S. ARMY CORPS OF ENGINEERS
Seattle, Washington

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

APPENDIX F

RESPONSES OF GROUPS AND AGENCIES TO A SURVEY REGARDING THE DISPOSAL OF 16.7 MILLION CUBIC YARDS OF DREDGED MATERIAL IN THE PACIFIC OCEAN OFF GRAYS HARBOR, WASHINGTON

Choker Research Group
Grays Harbor College
Aberdeen, WA

May 1980

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Work Order Number 3.

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COPY OF COVER LETTER,
QUESTIONNAIRE AND MAP SENT
OUT REQUESTING OPINIONS ON
DUMPING 16.7 MILLION CUBIC YARDS
WITHIN 5 MILES OF THE ENTRANCE
OF GRAYS HARBOR



November 2, 1979

A research team at Grays Harbor College is presently under contract to the U.S. Army Corps of Engineers to investigate potential ocean disposal sites relative to the widening and deepening of the navigational channel at Grays Harbor, Washington. The proposed project calls for disposal of an initial 16.7 million cubic yards of dredged material in an ocean disposal site to be designated offshore of the estuary. The majority of the estimated 2.8 million cubic yards of the annual maintenance dredging material would also be placed at this ocean site.

In order to acquire the information to be used in selecting the general vicinity of the proposed disposal site, we are asked to do the following tasks:

1. Perform a detailed literature review of the biological, physical, chemical and geological characteristics which describe the area offshore of Grays Harbor.
2. Conduct surface sediment testing of the offshore area to determine the depth at which the existing midshelf silt deposit begins.
3. To gather preliminary information on the benthic fauna of this area.
4. Identify and describe critical areas that may be adversely impacted by ocean disposal activities.

Therefore, to assist in identification of the critical areas, we are soliciting input from a broad cross-section of state and federal resource agencies, local organizations, marine related industries and recognized experts.

In conjunction with the fourth task, we are especially interested in identifying those critical areas within a five mile radius of the Grays Harbor entrance having potential for adverse impacts due to dredge disposal operations.

-2-

We ask that your organization respond to the attached set of questions and return them to Dr. John M. Smith, Grays Harbor College, Aberdeen, WA, 98520, no later than November 30, 1979. Upon receipt and review of your responses, we will schedule a "face-to-face" meeting with members of your organization, if you so desire. Positive benefit responses are requested, as well as no impact responses. Documentation of responses of all the groups and individuals we contact, as well as summaries of relevant discussions, will be included in our preliminary and final draft reports.

Thank you for your cooperation in this very important matter.

Sincerely yours,

Dr. John M. Smith
Contracting Officer,
Grays Harbor College
Representative

JMS:mjm

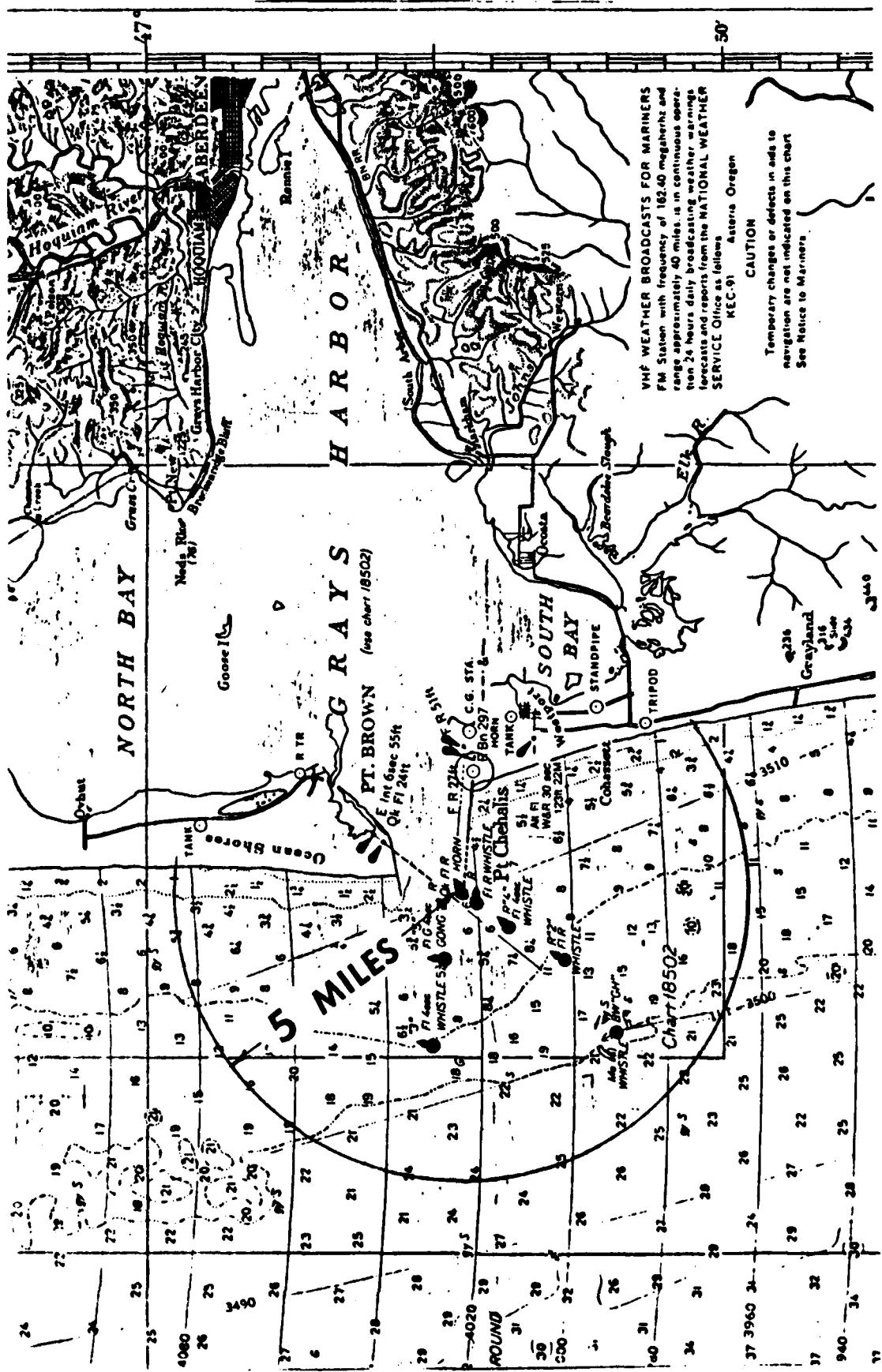
Enclosure

Organization Name _____

Number of Members (if applicable) _____

Principle Activity _____

1. What impacts (positive or negative) do you anticipate from the disposal of 16.7 million cubic yards (initial) and 2.8 million cubic yards (annual maintenance) of dredged material in an ocean disposal site to be designated offshore of the Grays Harbor estuary? For reference purposes, assume the area will be within a 5 nautical mile radius of the Grays Harbor entrance.
2. Specifically, how might the disposal operation affect your organizations activities or interest in the general area specified? Please describe impacts in terms of physical interferences (i.e., hazards to navigation, boating safety, etc.), potential alterations to biological productivity faunal breeding and rearing areas, water quality, effects anticipated, esthetic considerations and economic gains or losses to your organization. Describe any other impacts you feel are worth consideration.
3. Will these impacts be seasonal in nature? Please explain in detail.
4. Sketch in, on the chart provided, specific areas of critical importance to your organizations (as referred to in your written descriptions).
5. Within the proposed disposal area, where would be the best spot to put the material? Why? The worst spot? Why?



NOTE: Ocean depths are in fathoms.

LIST OF GROUPS AND AGENCIES
ASKED TO RESPOND TO THE
QUESTIONNAIRE ABOUT DUMPING
16.7 MILLION CUBIC YARDS WITHIN
5 MILES OF THE GRAYS HARBOR
ENTRANCE

LETTERS SENT
REQUESTING RESPONSE TO QUESTIONNAIRE
AS OF 11/9/79

1. MR. RON LEE
U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION X
1200 SIXTH AVENUE
SEATTLE, WA 98101
2. MR. DONALD R. JOHNSON, REGIONAL DIRECTOR
NATIONAL MARINE FISHERIES SERVICE
NORTHWEST REGIONAL OFFICE
1700 WESTLAKE AVENUE NORTH
SEATTLE, WA 98109
3. DIRECTOR
NORTHWEST & ALASKA FISHERIES CENTER
2725 MONTLAKE BLVD EAST
SEATTLE, WA 98112
4. COMMANDING OFFICER
U.S. COAST GUARD
WESTPORT, WA 98595
5. COMMANDING OFFICER
U.S. NAVAL FACILITY
PACIFIC BEACH, WA 98571
6. MR. RALPH BOOMAN
U.S. FISH AND WILDLIFE SERVICE
P.O. BOX 1487
OLYMPIA, WA 98507
7. MR. STAN LATTIN
PORT OF GRAYS HARBOR
P.O. BOX 660
ABERDEEN, WA 98520
8. MR. PAT DUGAN
GRAYS HARBOR REGIONAL PLANNING COMMISSION
217 1/2 EAST MARKET
ABERDEEN, WA 98520
9. MR. BILL WADE, MAYOR
CITY OF WESTPORT
CITY HALL
WESTPORT, WA 98595
10. MR. BILL MC DEAVITT, CITY MANAGER
P.O. BOX 317
OCEAN SHORES, WA 98569
11. MR. GUY MC MINDS
QUINAULT NATION
TAHOLAH, WA 98587
12. MR. GORDON SANDISON
WASHINGTON DEPARTMENT OF FISHERIES
115 GENERAL ADMINISTRATION BLDG
OLYMPIA, WA 98504
13. MR. RALPH LARSON, DIRECTOR
WASHINGTON DEPARTMENT OF GAME
600 NORTH CAPITOL WAY
OLYMPIA, WA 98504
14. MR. WILBUR G. HALLAUER
WASHINGTON DEPARTMENT OF ECOLOGY
OLYMPIA-LACEY, WA 98504
15. MR. BERT L. COLE
WASHINGTON DEPARTMENT OF NATURAL
RESOURCES
PUBLIC LANDS BUILDING
OLYMPIA, WA 98504
16. MR. CHARLES H. ODEGAARD
WASHINGTON DEPARTMENT OF PARKS AND
RECREATION
7150 CLEANWATER LANE
OLYMPIA, WA 98504
17. MR. JACK SMITH, BIOLOGIST
DEPARTMENT OF GAME
905 EAST HERON
ABERDEEN, WA 98520
18. MR. TOM NORTHRUP
DEPARTMENT OF FISHERIES
331 STATE HWY 12
MONTESANO, WA 98563
19. GRAYS HARBOR OYSTER GROWERS
C/O BRADY ENGVALL
NORTH RAINIER
WESTPORT, WA 98595
20. INDEPENDENT SEAFOOD HARVESTORS
C/O JOSEPH L. GUEDON
930 1/2 SOUTH FORREST
WESTPORT, WA 98595
21. COAST DRAGGERS ASSOCIATION
C/O J.K. HALLAM, JOHN EDWARDS
105 SOUTH BROADWAY
ABERDEEN, WA 98520

22. WASHINGTON DUNGENESS CRAB FISHERMAN'S ASSOCIATION
C/O ERNIE SUMMERS, PRESIDENT
BOX Q
WESTPORT, WA 98595
23. FRIENDS OF THE EARTH
NORTHWEST OFFICE
C/O DAVID ORTMAN
4512 UNIVERSITY WAY NE
SEATTLE, WA 98105
24. WEST COAST TROLLERS ASSOCIATION
C/O DICK CALHOUN, PRESIDENT
FIRST AVENUE EAST
WESTPORT, WA 98595
25. GRAYS HARBOR GILLNETTERS ASSOCIATION, INC.
C/O DICK CLARK
2324 NORTH HIGHLAND DRIVE
HOQUIAM, WA 98550
26. GRAYS HARBOR BIRD CLUB
FLORENCE BAILEY, CHAIRMAN
608 WEST THIRD STREET
ABERDEEN, WA 98520
27. NORTHWEST STEELHEADERS ASSOCIATION
GRAYS HARBOR CHAPTER
JAKE MEDCALF
350 GALE
HOQUIAM, WA 98550

TABLE 1
SUMMARY OF RESPONSES FROM FISHERMEN'S ASSOCIATIONS, CLUBS AND GOVERNMENT AGENCIES
CONCERNING OFFSHORE DISPOSAL OF 16.7 MILLION CUBIC YARDS FROM THE
PROPOSED WIDENING AND DEEPENING OF THE NAVIGATION CHANNEL IN GRAYS HARBOR

ORGANIZATION	POSITIVE	NEGATIVE	SEASONAL EFFECTS	BEST LOCATION	WORST LOCATION	COMMENT
Grays Harbor Crab Fisherman Assoc. 125 members	None	Any dredge material within 5 miles is unacceptable. Dry land disposal preferable to ocean. Any toxic muds should go on dry land only. "Souring" effect. Reduction of fishing ground for dredge travel corridor.	Avoid December thru April and May thru Sept.	If ocean dump is necessary, investigate rocky area 6 mi. NW of Grays Harbor in 725 fathoms. Dry land preferable to ocean.	Areas adjacent to two jetties. Port of Grays Harbor docks closer to mouth of Grays Harbor.	If deep water port is needed, move Port of Grays Harbor docks closer to mouth of Grays Harbor.
Coast Draggers Association	None	Prefer no dredge material be disposed within 5 miles. More hazardous bar crossing. Effects of silt on demersal fish.	None	If ocean dump is necessary, use area 6-8 mi. NW of Grays Harbor in 20-22 fathoms. Loran 4060 N to 4100.	None	Map included. If deep water port is needed build docks in vicinity of Johns River and west.
Westport Oyster Company	None	Oyster production and development don't mix. Long term impacts will hurt operation.	None	None	Any area	Any area
Westport Charter Boat Association 440 members	None	Directly affect food chain; toxic chemical resuspension. Dispersal of fish sought by sports fishermen. Shoaling due to re-entry of material into Grays Harbor.	March 15 to November 1 (Salmon & Bottomfish)	Dry land preferable to ocean. Ocean area of least impact straight W of Grays Harbor entrance > 25 f.	Harbor mouth. Avoid rocky areas along Loran line 4034 (34 f) and 3990 (30 f).	9

TABLE J
PAGE 2

ORGANIZATION	POSITIVE IMPACTS	NEGATIVE EFFECTS	SEASONAL EFFECTS	BEST LOCATION	WORST LOCATION	COMMENT
Friends of the Earth, Seattle	Beach nourishment at Ocean Shores or West Point.	Loss of seabed organisms. Avoidance of dump area by fish. Severe turbidity.	As far out as possible, away from known fish or other biologically sensitive areas.	Close to shore where beach & tidallands impacts are unwanted. Mouth of Grays Harbor (turbidity).		
Grays Harbor Chapter, NW Steelhead & Salmon Council of Trout Unlimited 225 members		Bioaccumulation of heavy metals & pesticides in organisms in food web in dump area. Economic losses in sport & commercial fisheries due to destroyed biota in dump site.	Effects of turbidity on migrating salmon and steelhead.	None-either inside Grays Harbor or out in ocean.	Any ocean location within 5 mi. of Grays Harbor.	Perform channel core sampling, interstitial water & sediment analysis & bioassys. Economic study.
Grays Harbor Bird Club 50 members	Eliminates plan to put dredge materials on tidelands important to birds.	Might interfere with baitfish.	Turbidity related effects of baitfish which birds feed on near Grays Harbor mouth.	NW of Grays Harbor 5 mi. in 15-20 f.	In vicinity of mouth of Grays Harbor. Might disturb baitfish.	Study Caspian Tern & gull colonies.

TABLE 1
PAGE 3

ORGANIZATION	POSITIVE	NEGATIVE	SEASONAL EFFECTS	BEST LOCATION	WORST LOCATION	COMMENT
Washington Dept. of Fisheries	On razor clams intertidally sal of sands and subtidally to a depth could enhance of 10 fathoms. On Dungeness crab throughout 5 mile radius, especially juvenile crab. On razor clam lar- vae, and Dungeness crab larvae. Groundfish mor- tality and groundfish habitat loss. Adverse water quality effects on salmon, marine fish, and shellfish.	On razor clams intertidally to a depth from south jetty to Cohasset for razor clams.	Dungeness crab fishing December 1 thru September 15. Razor clam larvae from late spring to early fall. Dungeness crab larvae from mid-February thru May.	Outside 5 mi. radius. In gravel substrate as far from com- mercial & sport fishing as possible.	Rocky substrate (rockfish & lingcod habitat)	Special concern for fine mud from upper harbor being disposed close in- shore.
Washington Dept. Game, Sympia	Effect of sediments on coast beaches.	Possible effects on beach feeding birds during fall & spring migrations.	Possible effects on beach feeding birds during fall & spring migrations.	Insufficient detailed knowledge to make decision.	Where sedi- ments would affect Oyeuhut Wildlife Recreation Area.	Map inclu- ded.
Washington State Parks & Recreation Commission	Possible effects of deeper channels on salmonid migration.	Migration period of salmonids.	None-Insuf- ficient basic data to make decision.	None-Insuf- ficient basic data to make decision.	Recommend study by GHC, WDG, WDF.	Dredge material too valuable to waste at sea.

TABLE 1
PAGE 4

ORGANIZATION	POSITIVE IMPACTS	NEGATIVE IMPACTS	SEASONAL EFFECTS	BEST LOCATION	WORST LOCATION	COMMENT
Washington Dept. of Ecology	Potential for beach nourishment. Potential for establishment of new wetlands.	Change in local benthos; direct & secondary impacts on fish, on commercial and sports fisheries. Lowering of water quality due to suspension & redistribution of spoils & toxic substances. Possible re-entry of spoils back into Grays Harbor estuary.	How will seasonal variations of current regimes and longshore transport act on disposal materials?	Course sands might be deposited within 1 mi. for beach nourishment south of Westport & at Ocean Shores.	For fine sands & silts, any-place within 5 mi. of the mouth of the Grays Harbor estuary.	Attempts should be made to minimize adverse effects on the near shore area & to reduce likelihood of dredged material movement back into the bar channel & estuary.
Washington Dept. of Natural Resources, Olympia, WA	No Comment		Significant but temporary increases of suspended particulates in the water column; substantial and long term disruption to the disposal site benthic community because of annual disposal requirements. Greatest concern is ultimate fate of dredged material, i.e. will it remain or migrate to other areas.	No comment	No comment	Few significant changes to ocean water quality due to relatively clean composition of G. H. dredged material. Oil and gas potential will need evaluation for specific dump sites.

TABLE 1
PAGE 5

ORGANIZATION	POSITIVE	NEGATIVE	SEASONAL EFFECTS	BEST LOCATION	WORST LOCATION	COMMENT
National Marine Fisheries Service, NM & Alaska Fisheries Center, Seattle	Anyplace anchovies will be disturbed in their benthic copepod and plankton feeding. Anchovies are most important in offshore food web.	Avoid shallow water dumping in summer, to protect flatfish & crabs.	As far out as possible, in as small an area as possible.	Where fine sediments would move to razor clam beaches. Also, near jetties.		
National Marine Fisheries Service, Environmental and Technical Services, Portland	Smother Dungeness crabs & razor clams. Alter distribution of salmonid food organisms & therefore alter feed year around. commercial salmon harvests, Feeding salmonids clog trawl nets if disposed from May 1 thru in single trawling area. Sept. 15. Ses- sile shellfish during spawning season.	Dungeness crab & razor clams. Alter distribution of salmonid food organisms & therefore alter feed year around. commercial salmon harvests, Feeding salmonids clog trawl nets if disposed from May 1 thru in single trawling area. Sept. 15. Ses- sile shellfish during spawning season.	None-Insufficient detail information to make any decision.	None-Insufficient detail information to make any decision.		
U.S. Naval Facility, Pacific Beach	No Impact	None	Unknown			
U.S. Environmental Protection Agency, Region X	Unable to respond due to limited staff					
U.S. Coast Guard Station, Westport	No comment	Any dumping activity that would make Grays Harbor bar area more hazardous to small craft operations.	No comment.	Well away from Grays Harbor bar where currents would not return dredged material to shoal on the bar.	No comment.	Impact contingent on effect of dumping on region fisheries and Grays Harbor bar.

OFF-SHORE OCEAN DISPOSAL OF
16.7 MILLION CUBIC YARDS OF DREDGE
MATERIAL WITHIN 5 MILES OF
GRAYS HARBOR

RESPONSES FROM NON-GOVERNMENTAL SOURCES

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ANSWERS TO QUESTIONNAIRE SENT OUT
By Grays Harbor College Research Team
To Grays Harbor Crab Fisherman's Association

I. Impacts

The crab fishermen use the term "souring" when referring to the impact of dredged materials disposed in the vicinity of their fishing grounds. It seems they are including in this descriptive term at least two separate phenomenon. First, their experience has been that the crab leave the area near where the dredged materials are deposited. Fishermen who generally have their crab pots in the area just north of the north jetty or adjacent to the south side of the south jetty, report a sharp decline of crab in their pots within a day or two of commencement of dredged materials disposal in the area between buoys 13 and 15. Although the disposal area is at least two miles from their pots, several fishermen report the effect of chasing crabs away as well as having their pots "silted in." A second aspect of the "sour" term refers to the reported odor of the pot after being exposed to sediment from the dredged materials.

Another impact claimed by the crabbers association is the reduction of fishing grounds due to a corridor that would have to be established for passage of the vessels carrying the dredged materials to an open sea dumping ground. From seventy five to one hundred vessels are fishing crab out of Grays Harbor during the winter season. The association claims that all available crabbing ground is now being used and any reduction in available area would cause a reduction in fishing.

II. Seasonality of Impact

During the "winter" crab season (December - April) there are from 75 to 100 vessels working out of Grays Harbor. In the "summer" season (May - Sep-

tember) there are approximately fifteen vessels working, primarily in near-shore areas to avoid the salmon fishing fleet.

III. Critical Areas

The area near the mouth of Grays Harbor, especially the area adjacent to the two jetties is identified by the crab fishermen as a moulting and nursery area for crab.

All of the area within 5 nautical miles of Grays Harbor is considered by the Crab Association to be prime crabbing ground.

The open ocean disposal area that would, in the opinion of the Crab Association, have the least impact on their industry is the area known as the "rock pile" about 6 miles northwest of the harbor entrance at a depth greater than 45 meters.

Above answers were formulated by the college research team from discussion at a meeting with officers of the Grays Harbor Crab Fisherman's Association. The crab fishermen that attended are listed below:

Ernie Summers
Don Stedman
Vern Heikkala

Chuck Nichols
Tom Kelley
Jack Strang

CRAB FISHERMAN'S ASSOCIATION

Summary of the Position of Grays Harbor Crab Fisherman's Association expressed at a meeting on December 2, 1979:

1. Dumping of dredge material in the ocean within five miles of the Grays Harbor bar is unacceptable. Annual disposal of 3 million cubic yards will be ongoing problem to crabbers.
2. Dry land disposal of dredge materials is preferred to ocean dumping, e.g. raise elevation of the Westport airport.
3. If no other solution to dredge materials disposal develops, the Corps of Engineers should investigate the rocky area six miles NW of Grays Harbor in 25 fathoms or more depth. The dredge would need to travel in well marked channel through crab fishing areas. They will need test pots in rocky area to see if crabs are present.
4. North channel toxic muds from around mouth of Hoquiam River should be disposed of on dry land only.
5. A study should be made of the difference between dumping which spreads material over a wide area vs. dumping in single mound.
6. If a deep water port is needed, the Corps of Engineers should study the vicinity of the mouth of Grays Harbor, i.e., this would eliminate the need to dredge 20 miles of harbor channel.

MEETING WITH GRAYS HARBOR
CRAB FISHERMAN'S ASSOCIATION

REPRESENTING APPROXIMATELY 125 MEMBERS

DATE: 12/2/79

PLACE: GRAYS HARBOR COLLEGE

Ernie Summers, President	Star Route 1, Box 137, Grayland, WA 98547
Don Stedman	Star Route, Box 414, Aberdeen, WA 98520
Vern Heikkila	P.O. Box 58, Westport, WA 98595
Chuck Nichols	P.O. Box 553, Westport, WA 98595
Tom Kelley	P.O. Box 776, Westport, WA 98595
Jack Strang	P.O. Box 265, Westport, WA 98595

J. K. HALLAM
STEPHEN J. HYDE

LAW OFFICES OF
J. K. HALLAM
108 SO. BROADWAY - P. O. BOX 343
ABERDEEN, WASHINGTON 98520

AREA CODE 206
532-7473

December 19, 1979

Dr. John M. Smith
Grays Harbor College
Aberdeen, Wa. 98520

RE: Disposal of dredge spoils

Dear Dr. Smith:

I'm sorry that we didn't respond to your November 2nd letter any earlier, but we thought that it had been covered in our telephone conversation with someone that we thought was from your office. Apparently it was somebody from the Fisheries Department that we had talked to, rather than from your office.

As far as the disposition of dredge spoils is concerned, we would prefer not to see any within a five (5) mile limit to the entrance of the harbor. Our concern is that an initial disposition of 16.7 million cubic yards and an annual addition of 2.8 million cubic yards may well change the contour of the bottom in such manner as to make the Bar crossing more hazardous than it already is.

More hazardous Bar crossings are particularly important to members of the Draggers Association. They fish in bad weather and are frequently fishing a substantial distance away from the entrance to the harbor. This means that storms have a chance to get a pretty good start before they can reach the safety of the harbor. Anything that makes the Bar crossing more dangerous certainly is not desirable to any of the users of the harbor, particularly those who are required to use it during the winter months.

As far as the effect upon the bottom conditions and the resulting effect upon fish life, we are uncertain as to what effect it may have. Certainly any change in the quality of the bottom is going to have some effect upon those fish that spend all of their time in close proximity to the bottom. We are also concerned that siltation in the water from the dumping of the dredge

December 19, 1979
Dr. John M. Smith
page-2

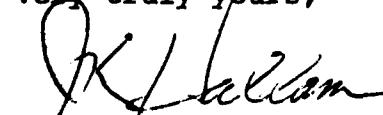
spoils could have an adverse effect on the fish in the area, reducing the population of the fish if it turns out the increased quantities of suspended silt are harmful to fish life.

We are enclosing herewith a portion of a chart on which we have indicated in yellow, the area closest to the harbor for the despostion of dredge spoils with the least ill effect upon fish life. In general, this area is one of a rather hard bottom and small hills and valley's which propably would not be harmed seriously by the desposition of dredge spoils.

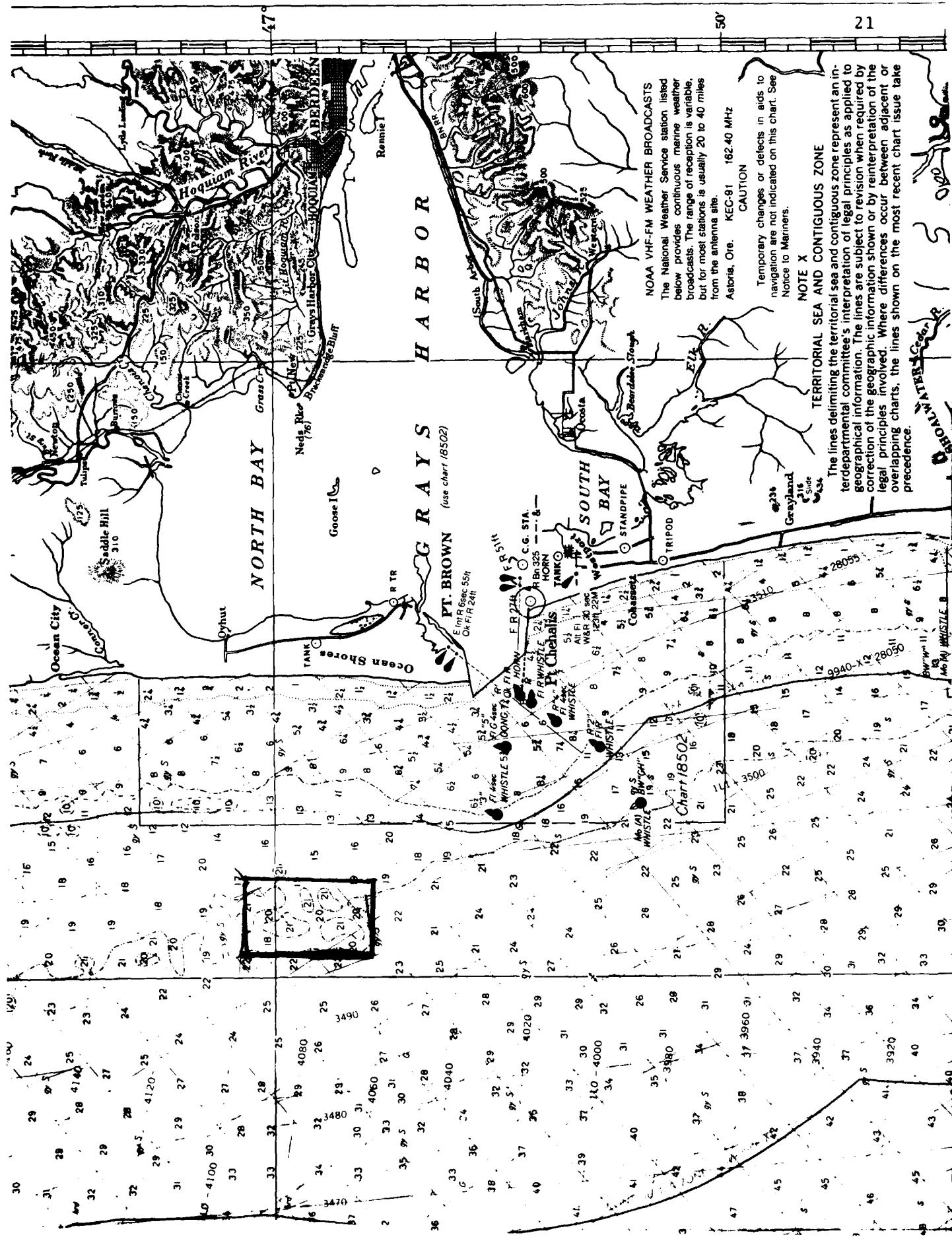
One other matter that comes to our minds in this regard is the fact that the vast quanity of dredge spoils by the proposed program could be eliminated if a new deep water port were constructed closer to the mouth of the harbon. It seems to us that something from the mouth of John's River west would provide and excellent area for a deep water port, require far less dredging than the present plans and would be easily excessable to the shipper's of commodities requiring a very deep water port through the use of the railroad running along the south side of the harbor.

We thank you for your consideration to our remarks.

Very truly yours,



J. K. HALLAM
Secretary
Coast Draggers Association



WESTPORT OYSTER COMPANY
P.O. BOX 401

Organization Name WESTPORT, WA 98595

Number of Members (if applicable) _____

Principle Activity OYSTER GROWING AND PROCESSING

1. What impacts (positive or negative) do you anticipate from the disposal of 16.7 million cubic yards (initial) and 2.8 million cubic yards (annual maintenance) of dredged material in an ocean disposal site to be designated offshore of the Grays Harbor estuary? For reference purposes, assume the area will be within a 5 nautical mile radius of the Grays Harbor entrance.
2. Specifically, how might the disposal operation affect your organizations activities or interest in the general area specified? Please describe impacts in terms of physical interferences (i.e., hazards to navigation, boating safety, etc.), potential alterations to biological productivity faunal breeding and rearing areas, water quality, effects anticipated, esthetic considerations and economic gains or losses to your organization. Describe any other impacts you feel are worth consideration.
3. Will these impacts be seasonal in nature? Please explain in detail.
4. Sketch in, on the chart provided, specific areas of critical importance to your organizations (as referred to in your written descriptions).
5. Within the proposed disposal area, where would be the best spot to put the material? Why? The worst spot? Why?

* IN GENERAL: Oyster production and development don't mix--the long term impacts will hurt my operation.

WESTPORT CHARTER ASSOCIATION
P.O. Box 654
Westport WA 98595

Organization Name _____

Number of Members (if applicable) 340

Principle Activity Offshore Salmon, Tuna, Bottomfish Sports Charter Trips.

1. What impacts (positive or negative) do you anticipate from the disposal of 16.7 million cubic yards (initial) and 2.8 million cubic yards (annual maintenance) of dredged material in an ocean disposal site to be designated offshore of the Grays Harbor estuary? For reference purposes, assume the area will be within a 5 nautical mile radius of the Grays Harbor entrance. See attached letter.
2. Specifically, how might the disposal operation affect your organizations activities or interest in the general area specified? Please describe impacts in terms of physical interferences (i.e., hazards to navigation, boating safety, etc.), potential alterations to biological productivity faunal breeding and rearing areas, water quality, effects anticipated, esthetic considerations and economic gains or losses to your organization. Describe any other impacts you feel are worth consideration. See attached letter.
3. Will these impacts be seasonal in nature? Please explain in detail. See attached letter.
4. Sketch in, on the chart provided, specific areas of critical importance to your organizations (as referred to in your written descriptions). See attached letter.
5. Within the proposed disposal area, where would be the best spot to put the material? Why? The worst spot? Why?

AREA OF LEAST IMPACT: The area straight out of Grays Harbor entrance in 25 fathoms or more.

AREAS TO AVOID: Rocky areas along Loran lines 4034 (34 fathoms) and 3990 (30 fathoms) should not be used as dredge material dump grounds.



P.O. Box 654
Westport, Washington 98595

3 December 1979

Dr. John M. Smith,
Contracting Officer
Grays Harbor College
Aberdeen, WA 98520

Dear Dr. Smith,

The dumping of 16.7 million cubic yards of dredged material in an ocean disposal site within a five nautical mile radius of the entrance of Grays Harbor could cause severe physical and environmental problems. The severity of these problems would be directly dependent on the time frame and focal point of dumping.

Should dumping of such a large amount of material occur over a short period of time in a relatively small area, the benthic fauna would essentially be destroyed. What short or long term effects this would have on the quality of sport fishing here, we do not know. However, we are concerned and do feel that some adverse effects will result. In addition to the possibility of affecting the food chain directly, we are concerned with the re-suspension of toxic chemicals which have been accumulating in the sediments over the years. Chemicals such as DDT, 2-4-5-T, 2-4-D and others used by the forest and wood-products industries, in addition to heavy metals would be re-introduced to the aquatic environment to be incorporated in the food chain and subsequently concentrated in the organisms at the top, many of which are targets for the sport fisherman.

Should the continuous dumping of large amounts of materials in a relatively small area cause forage species and species targeted upon by sportsmen to avoid that area, our industry would be adversely affected. This is obvious when one considers the rising costs of fuel and its decreasing availability.

Another problem which might result from the dumping of such a large quantity of material in close proximity to the harbor is the encroachment of materials back into the harbor. This could result in increased shoaling activity causing navigation hazards and reducing boating safety.

What effect an operation of this scope would have on migrating adult and juvenile salmon, as well as resident species of fish, is also a concern we have.

We feel that all possibilities of use on land should be exhausted before the material is dumped in the ocean. Environmental problems will arise either way. By utilizing the dredged materials as land fill, man can realize long term benefits. We feel that dumping in the ocean will benefit no one in the long term.

We hope that we will be kept up to date on the progress of the project and be allowed to comment further if we so desire. Thank you.

Sincerely,

Robert W. Helbig
Robert W. Helbig, Vice Commodore

Organization Name N.W. Office, Friends of the Earth
Number of Members (if applicable) 2,500
Principle Activity Environmental lobbying and monitoring of agencies

1. What impacts (positive or negative) do you anticipate from the disposal of 16.7 million cubic yards (initial) and 2.8 million cubic yards (annual maintenance) of dredged material in an ocean disposal site to be designated offshore of the Grays Harbor estuary? For reference purposes, assume the area will be within a 5 nautical mile radius of the Grays Harbor entrance.
2. Specifically, how might the disposal operation affect your organizations activities or interest in the general area specified? Please describe impacts in terms of physical interferences (i.e., hazards to navigation, boating safety, etc.), potential alterations to biological productivity faunal breeding and rearing areas, water quality, effects anticipated, esthetic considerations and economic gains or losses to your organization. Describe any other impacts you feel are worth consideration.
3. Will these impacts be seasonal in nature? Please explain in detail.
4. Sketch in, on the chart provided, specific areas of critical importance to your organizations (as referred to in your written descriptions).
5. Within the proposed disposal area, where would be the best spot to put the material? Why? The worst spot? Why?
 1. Would anticipate the loss of any seabed organisms at the disposal site. Would anticipate severe turbidity and avoidance of this area by fish. Positive impacts might include beach nourishment at either Ocean Shores or West Point depending upon location of site.
 2. No direct impacts to our organization.
 3. n.a.
 4. n.a.
 5. In general the best spot would be as far out as possible away from any known fish or other biologically sensitive area. If beach nourishment is a suitable goal than such a site should be selected. The worst spot would be either close to shore, where beach and tidelands impacts are unwanted and at the mouth of the Harbor where a turbidity block might be formed.

COPYGRAYS HARBOR CHAPTER, NORTHWEST STEELHEAD
AND SALMON COUNCIL OF TROUT UNLIMITED

November 27, 1979

We greatly appreciate the opportunity to respond to the project. Thank you for allowing us this imput.

1. When the channel deepening project was proposed, we were opposed to the disposal of any resulting spoils on any intertidal wetlands or salt water marshes. We supposted the deposit of all apoils at sea. Since that time we have been in contact with the Washington State Department of Fisheries. They and their biologists are opposed to the disposal of any dredge spoils at sea. They fear ocean disposal will have an adverse effect on shellfish populations. (We have a copy of the Department of Fisheries position, in letter form).

Department of Game biologists and the U.S. Fish and Wildlife Agency do not want the dredge spoils deposited on wetland sites, as they state these areas are very important in cleansing the estuary's waters. They also state these areas to be of great importance to downstream migrating juveniles.

Our organization works very closely with the above mentioned agencies. We rely on their expertise, so we have reached the conclusion that there is no safe place for the dredge spoils in inner or outer waters.

2. Our organization over the past eight years has spent thousands of dollars and thousands of man hours on fisheries enhancement projects. All fish rearing projects undertaken by our organization, as well as rearing projects by state agencies and other sports groups on Grays Harbor, have shown poor returns. High mortality rates to downstream juvenile migrating fish. The blame has been placed on a "pollution block" in the Grays Harbor estuary. The poor natural flushing action of local tides. The loss of thousands of acres of salt water marshes and tidelands over the past few years to filling are believed to have contributed greatly to this "pollution block." This pollution is a fact, in spite of the millions of dollars that have been spent by the municipalities and industries that are located on the Chehalis River.

So far, the losses to our organization amount to poor adult returns of salmonoids that we financed and raised as juveniles.

The loss to individual members amounts to less fish to have an opportunity to fish for. Shorter seasons and smaller creel limits. Fewer fish to catch when seasons are open. User groups are getting larger and fish runs are getting smaller. (The Washington State Supreme Court ruled recently in the "Boldt Decision" that "treaty Indian tribes are entitled to 50% of the salmon and steelhead runs. That the non Indian population of the state was entitled to the remainder. The right to fish is a right to each citizen and not a privilege.")

-2-

Individual members who make their living in the sport and commercial fishing industry and related areas such as tourism, suffer loss of personal income.

The Department of Game has made us aware of massive fish losses on the Willapa River system in 1978 due to dredging. This is one of the major reasons the Willapa channel is no longer dredges.

During the channel deepening dredging and into the future maintenance dredging, water quality will be impacted, thus causing fish losses to both adult and juvenile fish runs.

3. The Chehalis River system, including tributaries, contains summer and winter run steelhead trout, fall and winter coho, spring, summer, and fall chinook salmon. Dredging activity at any time of the year will impact one or more of these fish runs.
4. The entire "Grays Harbor, Chehalis River estuary system" is of critical importance to our organization. Tide flats, marsh lands, feeding, holding and spawning areas are all part of a natural chain. If any one link is destroyed there will be an adverse impact on the entire fishery. There are three problems involved. A deeper channel enhancing the "pollution block." The dredging activity itself. The disposal of spoils.
5. As was stated at the beginning, we know of no "best spot" to put the dredged material. We can find no agreement between the various state and federal agencies as to a "best spot."

Once again, thank you for this opportunity and we would like to schedule a "face to face" meeting as early as possible, where we can present pertinent information that we have on this project.

Respectfully,

Jerry Pavletich, President
Grays Harbor Chapter
P.O. Box 1050
Aberdeen, WA 98520

OFFSHORE DISPOSAL OF DREDGE MATERIALS FROM GRAYS HARBOR

MEETING WITH GRAYS HARBOR CHAPTER OF
NORTHWEST STEELHEAD AND SALMON COUNCIL
DECEMBER 9, 1979

SUMMARY OF CONCERNS AND RECOMMENDATIONS:

1. Concern:

What will be the effects of heavy metals and pesticides dredged from the Grays Harbor channel on biological organisms in the offshore dump area? Specifically, will there be bioaccumulation of these pollutants among existing food chains and food webs in the dump area?

Recommendation:

That appropriate tests, (i.e., channel core samples, interstitial water and sediment analyses and selected bioassays) be performed prior to any dredging or dumping by local scientists familiar with the local estuary and dump site.

2. Concern:

What will the short and long-term economic losses be to sport and commercial fisheries and local coastal communities if the biota inhabiting the proposed dump site is destroyed? Would the costs of dumping the material further offshore be offset favorably by the elimination of these potential economic losses?

Recommendation:

That an agency (e.g., WDF or NMFS or U of W) conduct an economic study of the value of the recreational and commercial fisheries impacted within the proposed dump site. This study should also include the impact of dredging on the estuary.

3. Other Concerns:

- A. What is the effect of turbidity on salmon and steelhead migrants? On primary productivity, and bottom organisms?
- B. What percent of the total 16.7 mcy of dredge materials is composed of contaminated materials?
- C. Will there be an increased dissolved oxygen sag and a decreased flushing rate in the Grays Harbor estuary as a result of widening and deepening?
- D. Will all 16.7 mcy be dumped in one location or will they spread it over a wide dump zone?

MEETING WITH
GRAYS HARBOR CHAPTER
NORTHWEST STEELHEAD AND SALMON COUNCIL
OF
TROUT UNLIMITED

DECEMBER 9, 1979 - GRAYS HARBOR COLLEGE

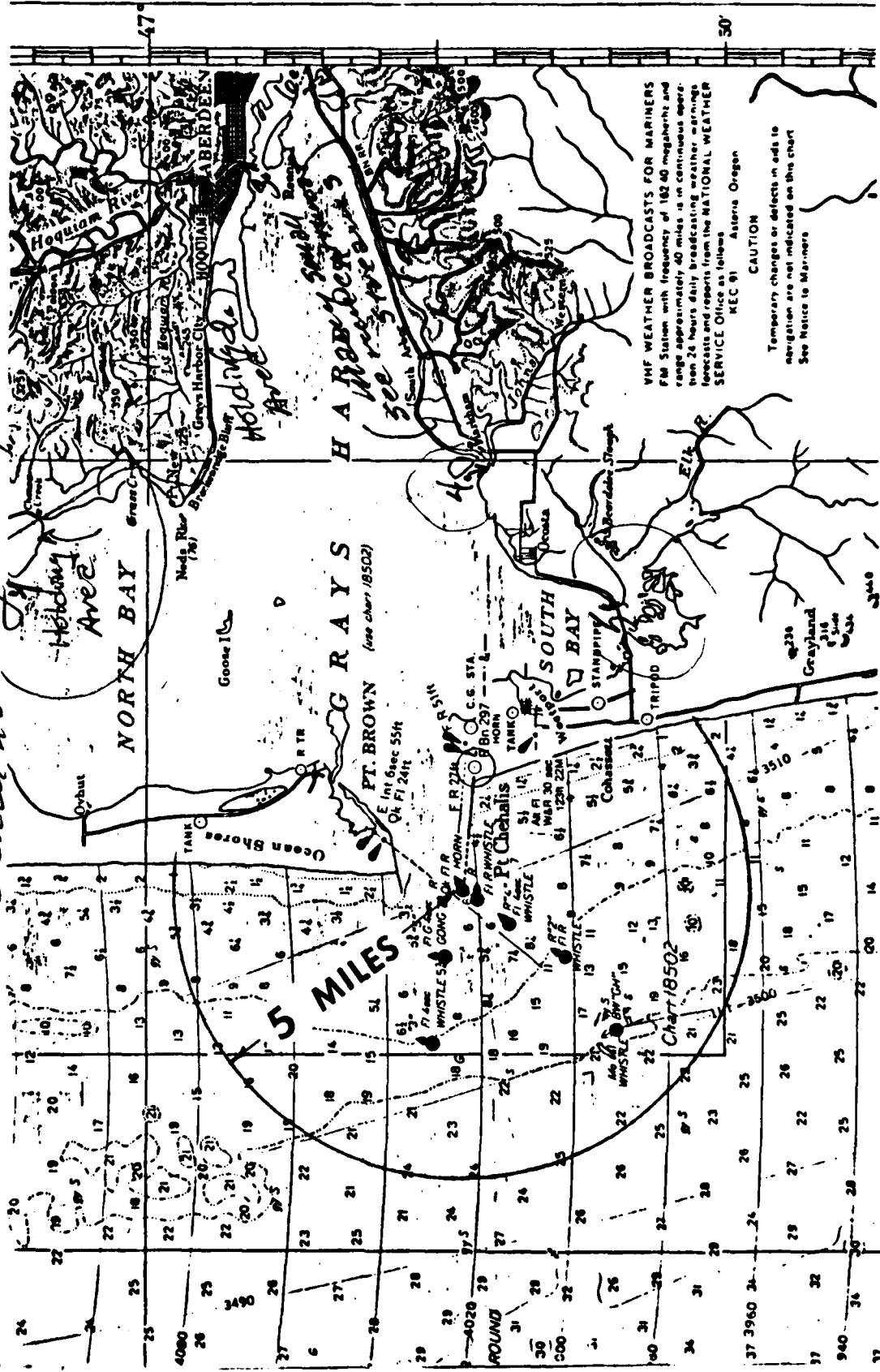
Members attending meeting:

<u>NAME</u>	<u>ADDRESS</u>
Jerry Pavletich, President	Route 1, Box 326, Aberdeen, WA 98520
Edward Erickson	Route 1, Box 315, Hoquiam, WA 98550
Dick Stone, Wash. Dept. of Fisheries	
Jim Large	705 Essex, Aberdeen, WA 98520
Dan Guy, Wash. Dept. of Game	
Robert Watson, Wash. Dept. of Game	515 Chenault Avenue, Hoquiam, WA 98550

Representing approximately 225 members.

- Important river harbor areas
1. mouth of Skagit River
 2. mouth of Skagit River
 3. mouth of Skagit River
 4. mouth of Skagit River
 5. mouth of Skagit River

6. opposite Bear River 102 & 202
the Wiskitk, Lyackson, Tatsap,
Coburg, Black and Skokom chuck
rivers & Skokom & Little Skokom Rivers.
7. mouth of Skagit and Little Skokom Rivers
more or less all rivers
8. mouth of Skagit River



NOTE: Ocean depths are in fathoms.

NAME: Grays Harbor Bird Club

NUMBER MEMBERS: 51 Active Members

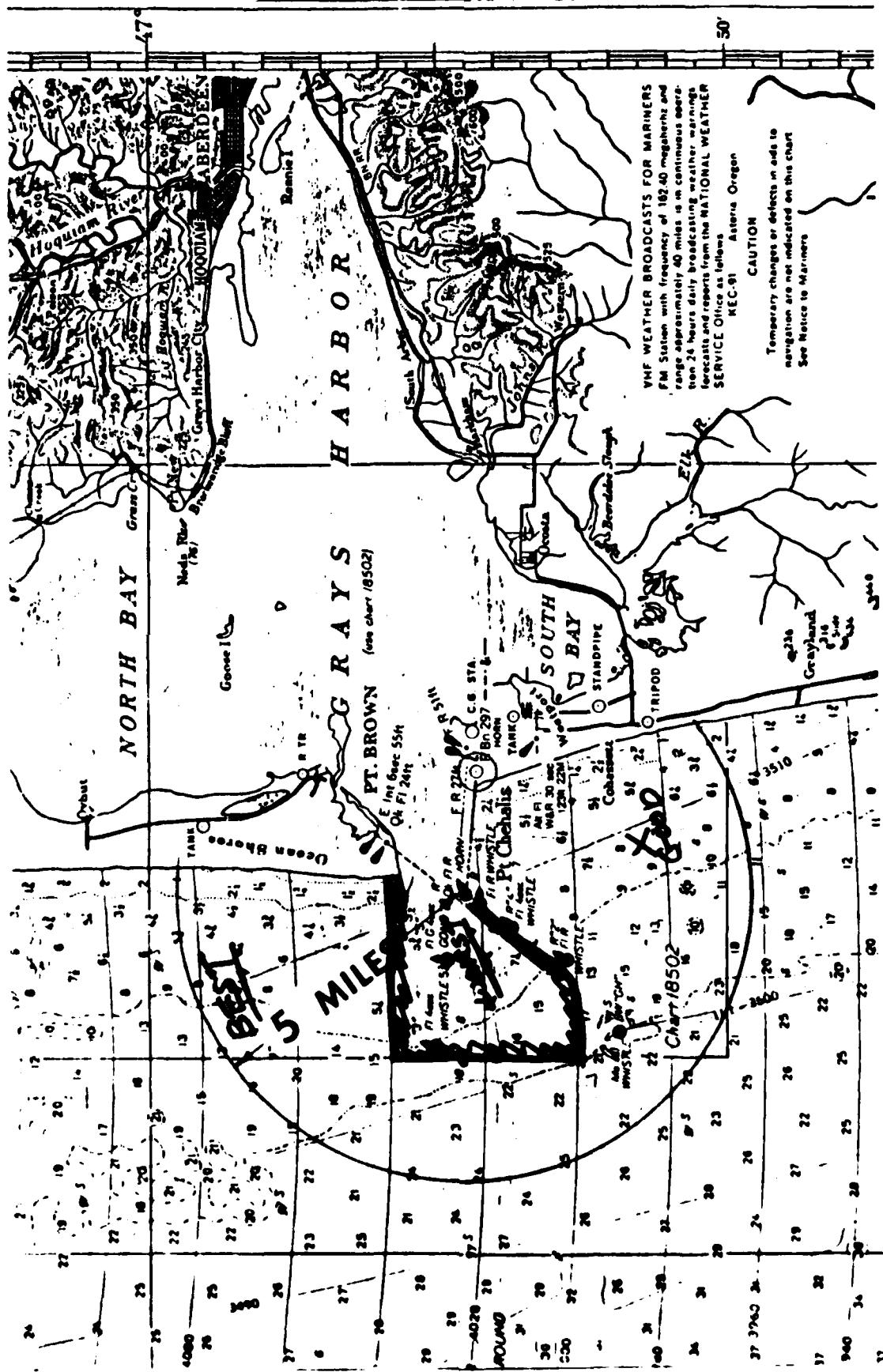
ACTIVITIES: Study of birds, natural history of Grays Harbor area

I. Impacts

- A. The net impacts of this proposal will probably be beneficial to our interests. This is because most of the material in the past would have been disposed of in shallow water, tide-land, or other biologically productive habitats within Grays Harbor. Putting it outside the harbor, in deep water, represents a real benefit to birds and most other natural resources.
- B. There is some concern that disposal right at the mouth (area outlined in black) might interfere with fish migration (talking about baitfish) which would in turn affect seabirds using this area in large numbers during the fall migration.
- C. It is generally felt that disposal of this amount of material in the ocean away from the mouth (outlined in black) would be absorbed easily by naturally occurring sediment transport.
- D. Careful study of small disposal areas away from the mouth should identify the areas of least biological productivity.
- E. Islands inside Grays Harbor should be monitored for changes which may take place due to movement of material back into the harbor.

II. Conclusions

- A. Disposal in this area may make some birds more available for viewing and some birds less available for viewing. We would like to see a careful monitoring program for the gull and Caspian Tern colonies on islands inside Grays Harbor.
- B. Interference with baitfish use near the mouth of Grays Harbor would be seasonal in nature. We would expect most interference in summer and fall, when baitfish are common near the mouth of the harbor.
- C. The best spot would be north of the harbor mouth where most of the material would move northward most of the year. The worst place would be right in the harbor mouth where the material has the highest likelihood of being moved back into the estuary. Another good possibility is south of the harbor mouth where some form of beach nourishment may protect state park lands, facilities, and the inland portion of the south jetty. This seems to be a high wave energy area, and impacts here on biological productivity may be minimized.



OFF-SHORE DISPOSAL OF 16.7 MILLION
CUBIC YARDS OF DREDGE MATERIAL
WITHIN 5 MILES OF GRAYS HARBOR

RESPONSES FROM WASHINGTON STATE AGENCIES

1. Washington Department of Fisheries
2. Washington Department of Game
3. Washington Department of Game
4. Washington State Parks and Recreation Commission
5. Washington Department of Ecology
6. Washington Department of Natural Resources



STATE OF
WASHINGTON

Dixy Lee Ray
Governor

January 15, 1980

DEPARTMENT OF FISHERIES

115 General Administration Building, Olympia, Washington 98504

206/753-6600

Dr. John Smith
Grays Harbor College
Aberdeen, Washington 98520

Dear Dr. Smith:

Ocean Disposal of Grays Harbor
Deepening and Widening Spoils
WRIA D-22

This letter is in response to your request for comments concerning the possible siting of an ocean disposal site for dredge material within a five (5) mile radius of the Grays Harbor entrance. We apologize for responding outside of the requested review period and hope that our comments will be of assistance at this time.

The most desirable disposal locations may lie outside the proposed 5-mile radius. Were the material carried farther off shore and deeper, it would present less potential conflict with intense recreational and commercial salmon, groundfish, and shellfish fisheries which occur along our coast.

Within and close to the 5-mile radius area, impacts to the shellfish resources would center primarily on the razor clam (Siliqua patula) and the Dungeness crab (Cancer magister). Razor clams are found intertidally, primarily on the north side of the Grays Harbor entrance and subtidally to depths of at least 10 fathoms. The Dungeness crab is found throughout the study area.

Some important points to consider relative to the shellfish resources are as follows:

- 1) Virtually all of the proposed disposal area is heavily utilized by Dungeness crab and is heavily fished by the commercial crab fleet during the commercial season (usually December 1 - September 15). Fishermen tend to abandon the deeper areas and fish inside 10 fathoms in late spring through summer. We would expect crab mortality (especially on juveniles) as a direct result of dumping, interference with crab fishing due to cut-off buoy lines and covered pots, and possible interference with fishing due to high siltation and turbidity.
- 2) The dredged material may have an adverse effect on the razor clam and Dungeness crab larvae and on food web organisms associated with these species. Razor clam larvae may be present in the area at any time of the year, but are found predominantly from late spring to early fall. Crab larvae are more often found in high concentrations from approximately mid-February through May.

Dr. John Smith

-2-

January 15, 1980

- 3) Sediment transport is a concern with regard to both major species. Quality substrate is essential to the razor clam population, and we would be particularly interested in the distribution of fine material from the upper harbor if dumped close inshore. On the positive side, the proper sediments could enhance the area from the south jetty to Cohasset which through erosion has become non-productive as a razor clam beach.

Both commercial and sport groundfish fisheries operate out of Westport. Results from recent marinefish surveys conducted along the Washington coast have suggested that the most productive commercial trawling grounds in the vicinity of Grays Harbor are located in waters deeper than 25 fathoms. Predominant commercial trawl species, which occur in moderate to light abundance in this area are butter sole (Isopsetta isolepis), rex sole (Glyptocephalus zachirus), skates (Rajidae), and English sole (Parophrys vetulus). The charter boat fishery which is developing out of Westport occurs primarily in water depths less than 30 fathoms. The target species include rockfish and lingcod, fish which inhabit the rock piles and hard bottom areas along the coast. At the very least, an unknown number of sedentary groundfish will be killed in addition to being negatively affected as a result of habitat loss and the over-covering of food organisms.

Adverse impacts to the salmon, marinefish and shellfish resources resulting from adverse water quality (i.e., depressed dissolved oxygen levels, increased siltation, toxicity and heavy metal concentrations) are major concerns of this department. Unless resolved in advance, drastic changes in the bottom contours and the presence of disposal barges may pose a navigational hazard and decrease the fishing effectiveness of those commercial and sport fisheries operating in the area.

Following are two locations within the study area worthy of further study as disposal sites for dredged material.

- 1) West by Northwest of Buoy #3 in 25 fathoms of water.
- 2) A distance of five (5) miles South by Southwest of Grays Harbor.

We do not want the disposal site located in an area with a rocky substrate (rockfish and lingcod habitat), nor with a sandy substrate (razor clam and Dungeness crab habitat). A preferred location, therefore, would be in an area with a gravel substrate and situated as far away from the various sport and commercial fisheries as possible.

However, much more information is needed prior to a final recommendation concerning the ocean disposal of dredged material. Such information as the physical and chemical characteristics of the spoils, timing and method of disposal, proposed disposal area sediment characteristics and oceanographic data must be reviewed. We strongly recommend continued coordination with tourist and commercial fishing interests in the area to assure minimizing of conflicts.

Dr. John Smith

-3-

January 15, 1980

Thank you for the opportunity to comment. Should you desire additional information or have any questions, please feel free to contact Mary Lou Mills at (206) 753-0576.

Sincerely,

Ray C. Johnson Jr.

Gordon Sandison
Director

kn

cc: Game
DOE
NMFS (C. Soderstrum)
EPA (Seattle)
USFWS (Olympia)



STATE OF
WASHINGTON

Dixy Lee Ray
Governor

DEPARTMENT OF GAME

600 North Capitol Way, GJ-11 Olympia, WA 98504 206/753 5700

December 17, 1979

Attn: Mr. Lew Mesmer
Greys Harbor College
College Heights
Aberdeen, WA 98520

Dear Lew:

I have given considerable thought to our recommendations regarding the deepening of the lower Chehalis River.

To answer the most important questions regarding the effect of the deepening, we need some basic data to tell us how long the salmonoid migration period is, the migration path in the channel (deep, midwater, shore, etc.), and which channel is most heavily used. We must have an in-depth (excuse the pun) study. Only then will we be able to assess the potential impacts on our salmonoid stocks.

We can no longer take a chance of making the wrong decision based on guessing what is going on. This fishery is in what I would term a critical survival balance and must be zealously protected.

I would suggest a joint study paid for by the Corp. of Engineers utilizing Greys Harbor College, and the Department of Game and Fisheries expertise for its design and implementation.

Very truly yours,

THE DEPARTMENT OF GAME

A handwritten signature in cursive script, appearing to read "Bob".

Robert E. Watson, Program Manager
Citizens Wildlife Heritage Program

REW:jr



STATE OF
WASHINGTON

Dixy Lee Ray
Governor

DEPARTMENT OF GAME

600 North Capitol Way/Olympia, Washington 98504

206/753-5700

November 26, 1979

Dr. John M. Smith
Grays Harbor College
Aberdeen, WA 98520

Dear Dr. Smith:

Your inquiry regarding ocean disposal of dredge material at Grays Harbor was received; comments follow.

We are pleased that this type of investigation is being performed to help insure that siting of ocean dumping will incorporate all available measures to protect resources in the Grays Harbor area. Our primary concern would be protection of Oyhut Wildlife Recreation Area (WRA), shorebird populations which use ocean beaches for feeding (especially during fall and spring migrations), and marine mammals. A map of Oyhut WRA is enclosed. Without detailed knowledge of overall adverse impacts of ocean disposal of dredge spoils, it is difficult to anticipate negative affects on resources for which we have management responsibility. However, we hope our comments will be of some help to you.

Thank you for letting us know about your investigations.

Sincerely,

THE DEPARTMENT OF GAME

A handwritten signature in cursive ink, appearing to read "Leslie Lynam".

LESLIE LYNAM
Biologist

LL:dp
Attachment
cc: Harte Pentilla

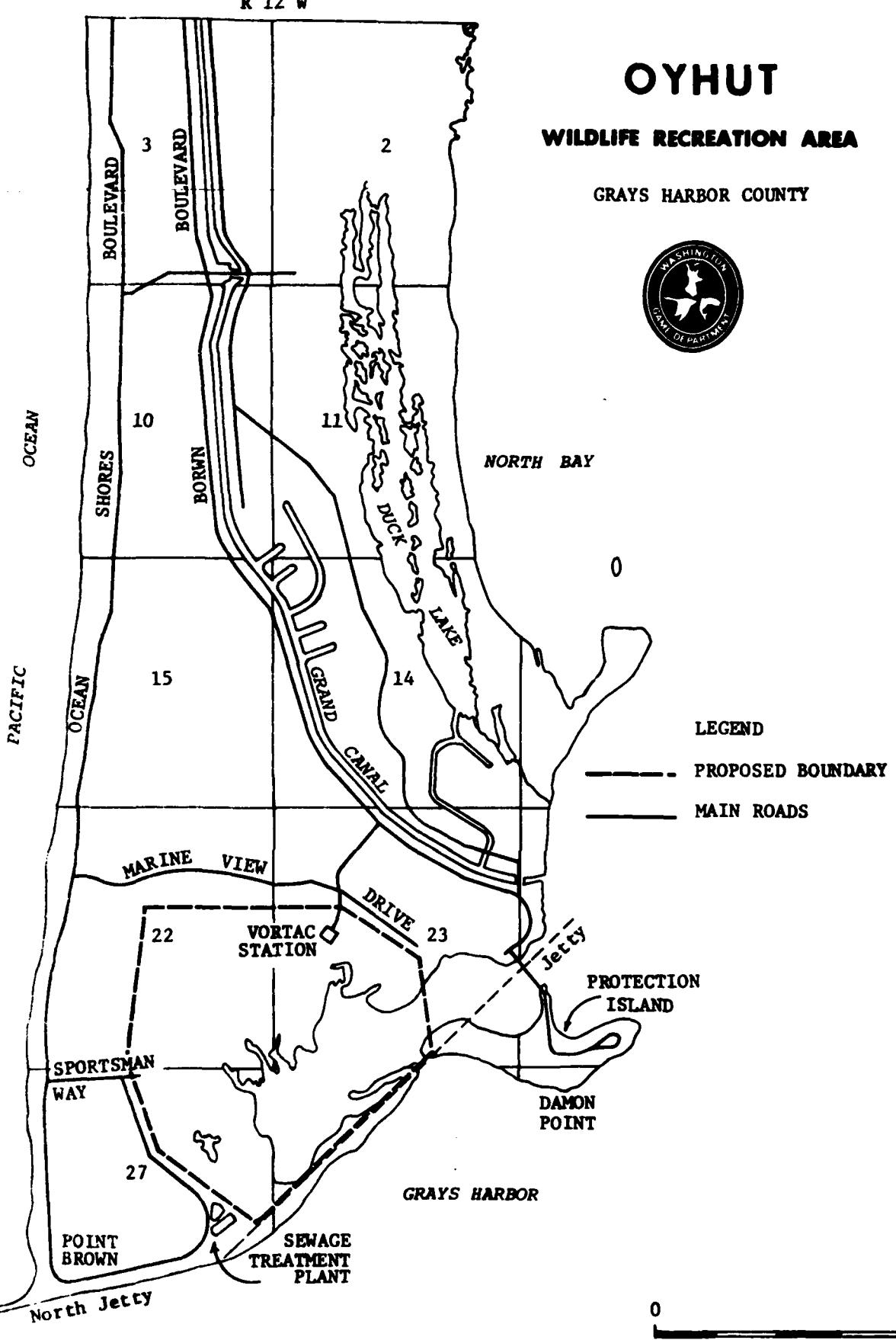
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39

OYHUT

WILDLIFE RECREATION AREA

GRAYS HARBOR COUNTY



Organization Name Washington State Parks and Recreation Commission - David W. Heiser,
Chief, Environmental Coordination

Number of Members (if applicable) _____

Principle Activity Provide Recreational Facilities on a Statewide Basis

1. What impacts (positive or negative) do you anticipate from the disposal of 16.7 million cubic yards (initial) and 2.8 million cubic yards (annual maintenance) of dredged material in an ocean disposal site to be designated offshore of the Grays Harbor estuary? For reference purposes, assume the area will be within a 5 nautical mile radius of the Grays Harbor entrance.
2. Specifically, how might the disposal operation affect your organizations activities or interest in the general area specified? Please describe impacts in terms of physical interferences (i.e., hazards to navigation, boating safety, etc.), potential alterations to biological productivity faunal breeding and rearing areas, water quality, effects anticipated, esthetic considerations and economic gains or losses to your organization. Describe any other impacts you feel are worth consideration.
3. Will these impacts be seasonal in nature? Please explain in detail.
4. Sketch in, on the chart provided, specific areas of critical importance to your organizations (as referred to in your written descriptions).
5. Within the proposed disposal area, where would be the best spot to put the material? Why? The worst spot? Why?

See attached page for responses.

WASHINGTON STATE PARKS AND RECREATION COMMISSION

David W. Heiser, Chief, Environmental Coordination

1. This will depend on the impacts to recreation resources, i.e. clams, fish. I presume the federal and state resource agencies have or will respond to this question in great detail.

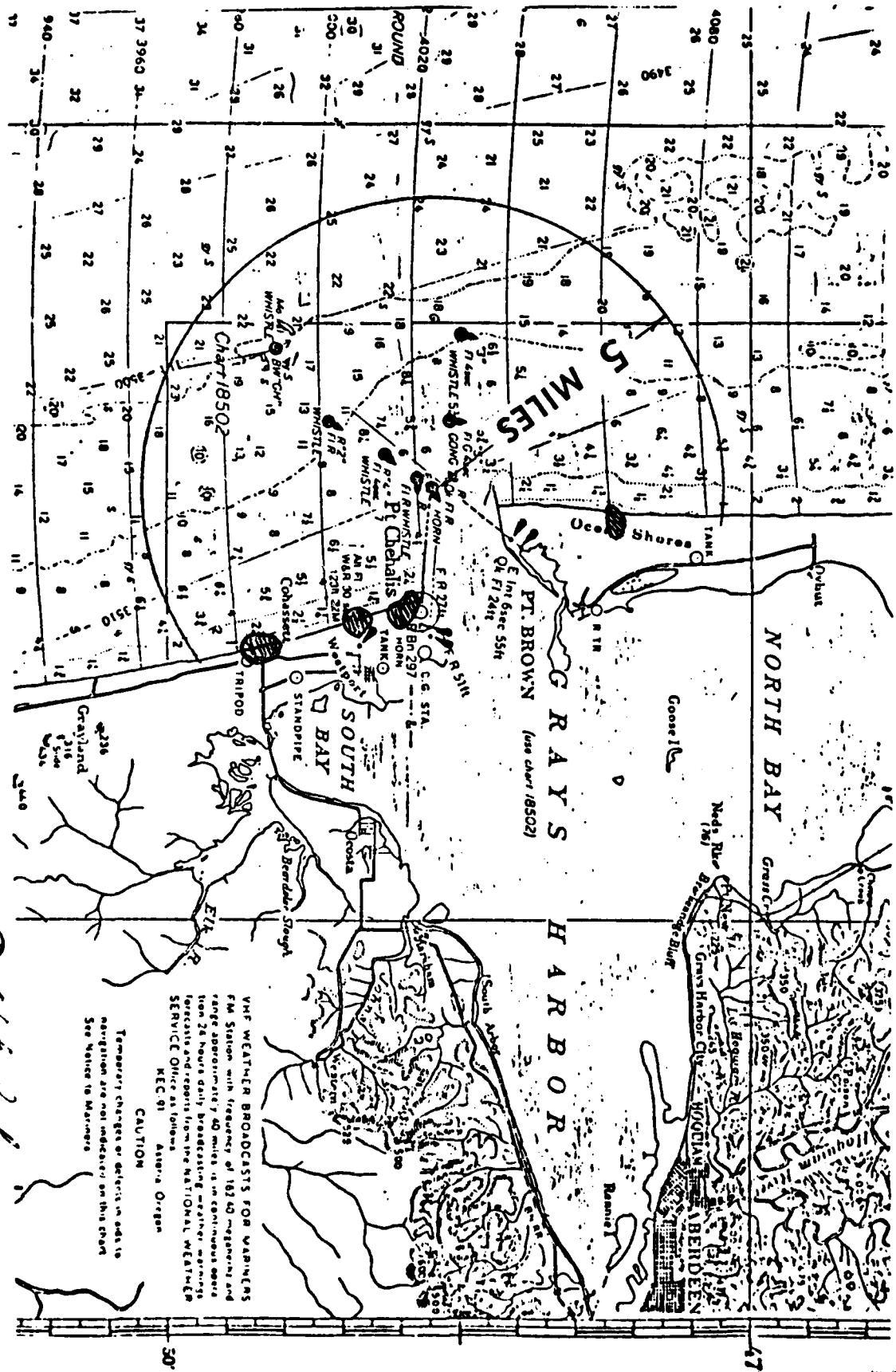
If their resources are not adversely affected, I see no problem for State Parks.

2. If the material is adequately disposed of, I see no difficulty. It does seem to be a terrible waste of valuable material which may have upland usage. I suggest that alternate land disposal be thoroughly reviewed.

3. N/A

4. Washington State Parks and Recreation Commission is responsible to maintain the native character of the intertidal area along this stretch of ocean known as the Seashore Conservation Area. The area managed by Parks is from extreme low tide to ordinary high water except in those locations where upland park sites are located. In those locations substantial landholding occurs.

5. In my view, this material should not be wasted at sea. It should first be used for upland fill or construction material if possible. Secondly, after the above, it should be placed at Westhaven State Park on the beach to replace material rapidly eroding. This information has been shared with the Corps of Engineers earlier. If the material were placed into the littoral drift feeding area such as Westhaven, substantial erosion could be reversed and new land accreted.





STATE OF
WASHINGTON
Dixy Lee Ray
Governor

DEPARTMENT OF ECOLOGY

Mail Stop PV-11
Olympia, Washington 98504
206/753-2800

January 28, 1980

Dr. John M. Smith
Associate Dean
Grays Harbor College
Aberdeen, Washington 98520

Dear Dr. Smith:

Your letters of November 2, 1979 and January 15, 1980 respectively, concerning proposed dredge spoil disposal offshore of Grays Harbor

My apologies for the overdue response to your letters above. Shortly upon receipt of your first request for information regarding expected impacts from the disposal of close to 20 million cubic yards of dredge spoils off Grays Harbor, I called Dr. James Phipps. During that conversation we discussed the project in some detail and I conveyed to Jim a number of concerns and mainly questions relative to a disposal operation of that magnitude and duration. The following comments reiterate therefore the same theme.

The process of reviewing the environmental effects of various Grays Harbor navigation improvement and channel maintenance proposals and overall management plans is long established and has become quite complex to date. I am certain you are well aware of that. This agency too has furnished information, participated in meetings and commented on a variety of concerning issues.

In comparing the spoil volumes mentioned in your letters with those published in the 1976 E.I.S. by the Corps of Engineers regarding the Grays Harbor Widening and Deepening and in the 1976 Interim Feasibility Report, it appears that the proposed upland disposal sites have been disregarded in favour of open ocean dumping. That action may require an addendum to the 1976 E.I.S. Such a document should address and furnish answers to questions like:

elimination and or displacement and change in composition of local benthos at the spoil site or sites proper and in the downdrift plume shadow;

Dr. John M. Smith
January 28, 1980
Page Two

direct and secondary impacts on fish (through changes in food cycles and nutrient levels, water quality deterioration and disruption of migration patterns of anadromous fish, etc.), on commercial and sports fisheries. Would disposal operations and schedules be flexible enough to minimize disruptions or compensate for them?

lowering of water quality standards due to suspension and redistribution of spoils and toxic substances. This should take into consideration the plume spread of fine spoils during transit through the water column i.e., the motion of the suspended fraction, and the effect of vertical layering of currents and tide flows on sediment distribution over time;

establishment of special disposal sites to receive spoils which contain toxic substances or which would cause drastic imbalances in DO and BOD levels;

compatibility of spoils with the deposits in the disposal area;

use of one only or several disposal sites;

feasibility of and benefits from disposing spoils:
a) further out at sea to minimize adverse effects on the nearshore area and to reduce the likelihood of spoil movement back into the bar channel and estuary vs. b) disposal close enough to shore to assure that at least part of that sediment volume would contribute to the littoral drift and beach accretion vs. c) utilizing some of the originally proposed or other upland spoil disposal sites for stockpiling of or filling designated areas with a resource that may soon be much in demand in that planning region;

spreading of spoils in thin layers over entire disposal area vs. dumping all of it at the same location;

will the disposed materials remain at the dumping sites and how will the seasonal variations of current regimes and alongshore transport act on them?

what disposal methods will be used?

Dr. John M. Smith
January 28, 1980
Page Three

I should mention here that it may be difficult in my opinion to chose any location within a 5-mile radius of the estuary that would eliminate the risk of redistribution of spoils in the silt and fine sand range. If currents and wave motions are strong enough to continuously carry sand from the Columbia River mouth across Willapa Bay entrance into Grays Harbor (and we know they are) would they leave spoils uneffected at the disposal sites? Sediment transport does not only take place in the nearshore zone but occurs more or less across the entire width of many shelf areas and certainly deeper than the 60 foot contour. There is no reason to believe that the transport mechanism off Washington's southwest coast should be less active today or in the near future than it was in the past.

In order for a beach nourishment effort to be effecti e, the seasonal wind and current patterns have to be observed and a dumping technique should be used that would allow disposal within a mile or so off the beach to increase the probability that it gets there soon. However, deposition of spoils as well as any other sediments along the coast and onto the beaches south of Westport and in the Ocean Shores vicinity would by no means eliminate the possibility that, as a result of prevailing accretion and erosion mechanics, a good portion would eventually be swept back into Grays Harbor.

Regarding the upland disposal I believe that serious consideration should be given to the use of suitable spoils from nearby channel modifications for the artificial formation of new wetlands to offset losses incurring by future developments.

Also any disposal operations must be closely coordinated with local and regional plans such as Shoreline Master Programs and the Grays Harbor Estuarine Management Plan.

I regret that I raised questions rather than providing you with many of the answers you requested. From your correspondence I assume that the College research team will be mainly responsible for identifying and analyzing impacts and processes as a result of disposing of such massive amounts of spoils and for determining optimal sites. The functions of our agency, however, are such that with the exception of maintenance of water quality standards and certain shoreline management aspects (disposal within a 3 mile limit) and respective permit requirements the open ocean disposal of dredge spoils does not fall under any of our regulatory responsibilities. We are therefore not in a position to furnish you with baseline data or the type of specific scientific information you desire.

Dr. John M. Smith
January 28, 1980
Page Four

Rather we react to such proposals after they are conceptualized in detail through the established review and commenting processes.

As a closing remark I wish to emphasize, however, that although subjects like biota, navigation, commercial and sports fisheries, economics of disposal, etc., are not specifically under our jurisdiction they are related to and bear onto our overall responsibilities and concerns under SEPA, NEPA, SMA and CZMA.

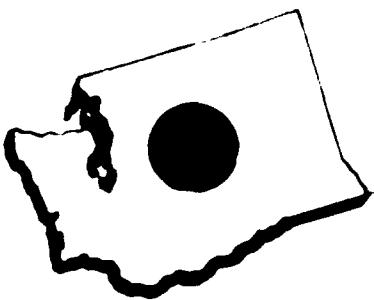
If I can be of further help or if you feel that a meeting would help to clarify some issues, please let me know.

Sincerely,



Michael Ruef
Management Section
Shoreland Division

MR:mg



STATE OF WASHINGTON

Department of

Natural Resources

47

COMMISSIONER
BERT L. COLE

OLYMPIA, WASHINGTON
98504

February 1, 1980


Dr. John M. Smith
Associate Dean
Grays Harbor College
Aberdeen, WA 98520



Dear Dr. Smith:



Please excuse our belated response to your inquiries for information concerning the Corps of Engineers proposal to establish an open water disposal site in the Pacific Ocean near Grays Harbor. We did not think it necessary to reply because we had already expressed our concerns to the Corps in previous scoping meetings. Furthermore, we are of the understanding that the disposal site ultimately selected by the Corps will be submitted to the Interagency Open Water Disposal Siting Committee for evaluation and approval.



In regards to your specific questions, we would anticipate that open water disposal of dredged material in the Pacific Ocean would have negative impacts similar to those observed in Elliott Bay (COE experimental disposal site) and in South Puget Sound (Dana Passage study by WDF). Generally speaking, we would anticipate: (1) significant but temporary increases of suspended particulate material in the water column which may be carried substantial distances by ocean currents, (2) few significant changes to ocean water quality owing to the relatively clean composition of Grays Harbor dredged material, and (3) substantial and long term disruption to the disposal site benthic community because of annual disposal requirements.



The potential impacts we are most concerned about pertain to the fate of the dredged material. Being that it is such a large volume, we need to know if the dredged material will essentially remain in place or migrate to other areas. If it should migrate, what quantities might move and to what new locations? How will water depths be changed? We are also concerned about biological resources, particularly commercially important species, but that aspect of disposal impact is better addressed by the Department of Fisheries and federal resource agencies.



Dr. John M. Smith
Page 2
February 1, 1980

While there has occurred a limited amount of exploration for oil and gas resources in the general area off Grays Harbor, there has been no positive indication of such resources. However, the possibility exists that such resources may be discovered in the future. Therefore, any site specific analysis must include an evaluation of potential oil and gas exploration and development in the general area.

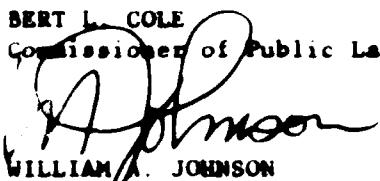
The DNR serves as the manager of open water disposal sites in Puget Sound and elsewhere. We chair the Interagency Committee, obtain the necessary permits for open water sites (shoreline permit) and monitor the disposal of material to insure that material is disposed of in the designated locations. We would assume these same duties for the proposed ocean disposal site if it is sited within the 3-mile limit of state jurisdiction. The responsibility to insure that material is disposed of in the proper location will add considerably to our monitoring requirements.

At this time we do not know of any specific areas of critical importance, nor do we have any idea of the best spot to dump material.

If we can be of any further assistance, please contact Rick Vining at 753-3703.

Sincerely,

BERT L. COLE
Commissioner of Public Lands


WILLIAM A. JOHNSON
Division Manager
Marine Land Management Division

WAJ:rvp

OFF-SHORE DISPOSAL OF 16.7
MILLION CUBIC YARDS OF DREDGE
MATERIAL WITHIN 5 MILES OF
GRAYS HARBOR

RESPONSES FROM UNITED STATES GOVERNMENT AGENCIES

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**UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE**

Northwest & Alaska Fisheries Center
Coastal Zone & Estuarine Studies Division
2725 Montlake Boulevard East
Seattle, WA 98112

30 November 1979

F115:GEM

Dr. John Smith
Contracting Officer
Grays Harbor College
Aberdeen, Washington 98520

Dear Dr. Smith:

This is in reference to your letter of inquiry about impacts of the proposed disposal of dredge material off Grays Harbor. National Marine Fisheries Service (NMFS) personnel have conducted dredge disposal related research on demersal fish and decapod shellfish off the Columbia River mouth from 1974 to 1976. Oregon State University and University of Washington researchers have also conducted studies in this area. The interrelated studies were sponsored and published under U.S. Army Corps of Engineers Waterways Experiment Station program contracts. NMFS is currently conducting a pelagic investigation of mark recoveries and characteristics of juvenile salmonids off the Columbia River mouth. It is likely that the results of these Columbia River studies and the experience of those who conducted them would be useful to you in assessing the possible effects of the disposal of dredge material off Grays Harbor which is only 47 miles to the north.

Because there is additional information we need before we can answer the questions posed in your letter and because the answers to the questions are more lengthy than can be easily presented in a letter, I suggest you contact Terry Durkin of our staff in Hammond, Oregon (503) 861-1818. Mr. Durkin is extremely knowledgeable in these matters, and he will be able to provide the information you need.

Sincerely yours,

Wesley J. Ebel
for Wesley J. Ebel
Division Director





**UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Environmental & Technical Services Division
P. O. Box 4332, Portland, Oregon 97208**

December 10, 1979

F/NWR5:CES

Dr. John M. Smith
Contracting Officer
Grays Harbor College
Aberdeen, Washington 98520

Dear Dr. Smith:

We have reviewed your November 2, 1979, request to Regional Director Johnson for information in relation to your Grays Harbor offshore dredge spoil disposal study for the Corps of Engineers. The volume of material to be disposed is of such magnitude that we believe evaluation of disposal sites would require on-site investigation. Our comments on your specific questions raise some of the issues that should be addressed.

1. What impacts (positive or negative) do you anticipate from the disposal of 16.7 million cubic yards (initial) and 2.3 million cubic yards (annual maintenance) of dredged material in an ocean disposal site to be designated offshore of the Grays Harbor estuary? For reference purposes, assume the area will be within a 5 nautical mile radius of the Grays Harbor entrance.
2. Specifically, how might the disposal operation affect your organizations activities or interest in the general area specified? Please describe impacts in terms of physical interferences (i.e., hazards to navigation, boating safety, etc.), potential alterations to biological productivity faunal breeding and rearing areas, water quality, effects anticipated, esthetic considerations and economic gains or losses to your organization. Describe any other impacts you feel are worth consideration.

Dungeness crab and razor clams are abundant within the five nautical mile radius of the Grays Harbor entrance. Disposal of vast amounts of spoil in this area could smother or otherwise adversely affect those benthic species. There is substantial commercial and recreational harvest of both in this area. Impacts on the resources could seriously affect industries associated with that harvest.

Several species of salmon congregate within the proposed disposal area feeding heavily prior to their spawning migrations. Intense commercial, charter, and recreational fishing are conducted from Grays Harbor in pursuit of these fish. Disposal of the dredge spoil could destroy or



alter distribution of salmonid food organisms, forcing the salmon to other locations and impact the related harvest and associated industries. Similarly, juvenile salmon migrating from Grays Harbor could be adversely affected by reduction of food organisms as they make the transition to the marine environment.

The spoil could be composed of fine material that would be separated during the fall through the water column. If this occurs the resulting fallout of suspended material in the plume could extend for miles depending upon the speed and depth of the coastal currents.

Seasonal and varying drifts of ocean water occur along this portion of the Pacific Coast. Spoil and the accompanying silt plume could theoretically adversely affect Grayland and Long Beach Peninsula razor clam beds as well as important northern beds. There is the additional possibility that the suspended silt could be swept into Willapa Bay and impact the extensive oyster industry there.

Disposal of 16.7 million cubic yards of spoil at a single location could create a hazard to fishing effort. Trawl nets encountering the unconsolidated material could become clogged and damaged by the load of silt, mud, or other debris.

3. Will these impacts be seasonal in nature? Please explain in detail.

Impacts to Dungeness crab populations would be continuous. Adult crabs move into shallower water about November to feed and mate and are present until August of the following year. Juveniles are found throughout the year. Commercial crabbing occurs from about December 1 until season closure about September 15.

Razor clams are non-migratory and therefore could be impacted throughout the year.

Feeding salmonids may be found in the area throughout the year and could be adversely impacted by dredge spoil disposal. Harvesting generally occurs from May 1 to September 30. Fishing seasons are controlled by the State and may annually.

Sessile shells, subjected to the settling debris would be adversely impacted. Their spawn released into the mass of suspended silt could be affected by pollutants, adsorbed on the fine particles or simply carried to the bottom and smothered.

4. Sketch in, on the chart provided, specific areas of critical importance to your organizations (as referred to in your written descriptions).

In our estimation the entire area is equally important to all commercial, charter, and recreational fisheries and the resources that support them.

5. Within the proposed disposal area, where would be the best spot to put the material? Why? The worst spot? Why?

We do not have sufficiently detailed information at hand to differentiate levels of impact within the designated 5-mile radius. As noted in 4. above the entire area is environmentally important to aquatic resources.

We appreciate the opportunity to answer your request. If you have further questions concerning our comments you may contact Clifford Soderstrom of this office at (503) 234-3361, extension 4311.

Sincerely yours,



Dale R. Evans
Division Chief

cc: Washington Dept. of Fisheries
Washington Dept. of Game
Environmental Protection Agency, MS521
Fish and Wildlife Service, ES, Olympia
Corps of Engineers, Seattle District, NPSEN-PL-ER

ROUTINE REPLY, ENDORSEMENT, TRANSMITTAL OR INFORMATION SHEET
NAVEXOS-3989 (Rev. 12-62) 0104-LF-901-4901

DATE 16 November 1979

FROM

FILE NUMBER

NFPB:BBB:SS
5000

Ser 573

Commanding Officer, Naval Facility, Pacific Beach, WA 98571
SUBJECT Dredging Survey

REFERENCE

(a) GHC ltr dtd 2 Nov 1979

ENCLOSURE

(1) Survey questionnaire

This form may be used in a window envelope.

VIA

Endorsement on

<input checked="" type="checkbox"/> FORWARDED	<input type="checkbox"/> RETURNED	<input type="checkbox"/> FOLLOW-UP	<input type="checkbox"/> REQUEST	<input type="checkbox"/> ADVISE	<input type="checkbox"/> SUBMIT
MESSAGE		MESSAGE		MESSAGE	
X FOR APPROPRIATE ACTION		SUBJECT DOCUMENT(S) WAS/WERE FORWARDED TO YOUR OFFICE AS A MATTER UNDER YOUR JURISDICTION.		CERTIFY ENCLOSURE AND ACCEPTANCE OF MAIL AND FORWARD TO	
FOR INFORMATION OR CERTIFICATION AND/OR FILE.		SUBJECT DOCUMENTS WAS/WERE APPROVED AND FORWARDED TO YOU.		COPIES OF SUBJECT CHANGE ORDER AMENDMENT OR MODIFICATION	
<input type="checkbox"/> APPROVED <input type="checkbox"/> DISAPPROVED		COPY(IES) OF THIS CORRESPONDENCE WITH YOUR REPLY.		CHANGE NOTICE TO THE SUPPLIER	
APPROVAL <input type="checkbox"/> IS <input type="checkbox"/> NOT RECOMMENDED		ENCLOSURE(X) (1) IS <input type="checkbox"/> FORWARDED AS REQUESTED BY REFERENCE		COPIES OF APPLICABLE PLANS AND/OR SPECIFICATIONS	
CONCURRING IN RECOMMENDATIONS MADE IN THE BASIC CORRESPONDENCE.		ENCLOSURE(S) IS/ARE RETURNED FOR CORRECTION AS INDICATED.		FOR PLAN ACTION AS INDICATED	
COMMENTS AND/OR RECOMMENDATIONS.		CORRECTED ENCLOSURE(S) AS REQUESTED		CLASSIFICATIONS OF DEFECTS FOR SUBJECT ITEMS	
MAILING LIST ACTION		SUBJECT PERSON'S ATTENTION SHOULD BE INVITED TO THIS MATTER		CONFIRMATION THAT INSPECTION OR SOURCE INSPECTION IS NOT REQUIRED	
FOR ASSIGNMENT OF BUREAU FILE NUMBER(S)		SUBJECT PERSON(S) REPORTED TO THIS COMMAND		INSPECTION UNDER THE SUBJECT SUBCONTRACT IS NOT REQUIRED	
ON A LOAN BASIS RETURN BY		SUBJECT PERSON(S) COMPLETED HIS/ THEIR DUTY AND WAS/WERE DETACHED FROM THIS COMMAND		COPIES OF SUBJECT PURCHASE DOCUMENT, IF SOURCE INSPECTION OR PROGRESSING IS REQUIRED	
SIGN ORIGINAL RECEIPT AND RETURN TO THIS OFFICE.		NAME AND LOCATION OF SUPPLIER OF SUBJECT ITEMS		STATUS OF MATERIAL ON SUBJECT PURCHASE DOCUMENT	
SUBJECT FILES, WHICH ARE LOCATED IN BOX NO. SHIPMENT NO.		SUBCONTRACT NUMBER FOR SUBJECT ITEM		CLEARANCE AS INDICATED IN BASIC CORRESPONDENCE VERIFIED. NO REPLY UNLESS NEGATIVE.	
REPLY TO THE ABOVE REFERENCE(S) BY		SUBJECT PURCHASE DOCUMENT HAS BEEN REQUESTED AND WILL BE FORWARDED WHEN RECEIVED.		VERIFICATION OF NEED-TO-KNOW FOR VISIT PERSONNEL CLEARANCES VERIFIED.	
COPY(IES) OF REFERENCE DESCRIBED ABOVE WAS/WERE NOT RECEIVED.		ENDORSEMENT ____ OF SUBJECT SUBCONTRACT IS BEING DELAYED PENDING RECEIPT OF BASIC PURCHASE DOCUMENT.			
SUBJECT DOCUMENT(S) WAS/WERE FORWARDED TO		APPROPRIATION SYMBOL SUBHEAD AND CHARGEABLE ACTIVITY			
SUBJECT DOCUMENT(S) IS/ARE WAS/WERE RETURNED FOR		WHETHER SUBJECT ITEMS ARE TO BE COMMERCIALLY SHIPPED OR AT GOVERNMENT EXPENSE			
		A CERTIFICATE IN LIEU OF SUBJECT BILL OF LADING WHICH HAS BEEN LOST.		SEE REMARKS ON THE REVERSE SIDE.	

COPY TO

SIGNATURE

B. D. BERKIMER
By direction

Organization Name U.S. NAVAL FACILITY, PACIFIC BEACH, WA

Number of Members (if applicable) 115

Principle Activity OCEANOGRAPHIC RESEARCH

1. What impacts (positive or negative) do you anticipate from the disposal of 16.7 million cubic yards (initial) and 2.8 million cubic yards (annual maintenance) of dredged material in an ocean disposal site to be designated offshore of the Grays Harbor estuary? For reference purposes, assume the area will be within a 5 nautical mile radius of the Grays Harbor entrance. NO IMPACT
2. Specifically, how might the disposal operation affect your organizations activities or interest in the general area specified? Please describe impacts in terms of physical interferences (i.e., hazards to navigation, boating safety, etc.), potential alterations to biological productivity faunal breeding and rearing areas, water quality, effects anticipated, esthetic considerations and economic gains or losses to your organization. Describe any other impacts you feel are worth consideration. NO EFFECT
3. Will these impacts be seasonal in nature? Please explain in detail. NO IMPACT
4. Sketch in, on the chart provided, specific areas of critical importance to your organizations (as referred to in your written descriptions). NONE
5. Within the proposed disposal area, where would be the best spot to put the material? Why? The worst spot? Why? UNKNOWN

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION X

56



1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

REPLY TO
ATTN OF: Mail Stop 521

NOV 8 1979

Dr. John M. Smith
Contracting Officer
Grays Harbor College
Aberdeen, Washington 98520

Dear Dr. Smith:

Due to our extremely limited staff resources at this time, we will not be able to respond to the questions in your November 2, 1979 letter to Mr. Ron Lee concerning impacts of the proposed widening and deepening of the Grays Harbor Navigation Channel.

The information you requested should be readily available from other state and federal resource agencies

Sincerely yours,

Harold E. Geren

Harold E. Geren, Chief
Permits Branch



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

57

MAILING ADDRESS.

Commanding Officer
USCG Station
Grays Harbor
Westport, WA 98595

16000
22 January 1980

•Dr. John M. SMITH
Contracting Officer
Grays Harbor College Representative
Aberdeen, WA 98520

Dear Dr. SMITH:

In reply to your dredging impact questionnaire dated November 2, 1979. This station does not have the expertise to properly evaluate the impact of the proposed dumping. Any impact upon our assigned mission is contingent upon the impact the dumping would have on the region's fisheries and the Grays Harbor Bar area.

This station would be against any dumping that would make the Grays Harbor Bar more hazardous to small craft operations. We recommend a dumping site well away from the bar area where currents would not return the spoils to shoal in on the bar.

Sincerely,

M. S. WILLS
Chief Warrant Officer, W-3
Acting Commanding Officer

**DATE:
TIME**